



# Virginia State Noise Abatement Policy

## Authorization

The State Noise Abatement Policy is adopted pursuant to the authority of Section 33.112 of the Code of Virginia.

## Forward

The State Noise Abatement Policy established consistent criteria for providing noise abatement measures on all proposed highway projects regardless of funding. The proposed policy mirrors the Federal Highway Administration (FHWA) noise abatement criteria currently employed by VDOT for federal aid projects. For non-federal aid projects, the Policy requires 50 percent contribution to the cost of abatement by the locality through which the project traverses. The Policy also requires that the locality have an ordinance which requires developers to provide noise abatement for all new residential and other noise sensitive developments adjacent to existing highways or known future highway corridors.

## Definitions

The following words and terms, when used in this Policy, shall have the following meaning, unless clearly indicated otherwise:

“**Commonwealth**” means Commonwealth of Virginia.

“**The Cost Effectiveness Criteria of \$20,000 Per Receptor**” means the cost of the abatement measure divided by the number of impacted receptors receiving noise protection (a minimum reduction of 5 decibels). The abatement cost includes only the cost of materials and installation. It does not include costs for drainage, mobilization, median barriers, landscaping, and other incidental items.

“**DBA**” means “A-weighted decibel”, which is a widely accepted measure for expressing traffic noise levels.

“**Design Year**” means the future year used to estimate the probable traffic volume for which the highway is designed.

A time of 10 to 20 years from the start of construction is usually used.

“**Extenuating Circumstance**” means any unforeseen situation which may arise on an individual project, and due to its sensitivity to noise and its importance or value to the community, noise abatement is warranted even though the cost effectiveness criteria or other criteria contained in the State Noise Abatement Policy are met. An example is a noise barrier along I-495 which protects residential properties and a church which has membership of over 1,000 people and is used regularly for religious, social, and recreational activities. Even though the cost per receptor exceeds the \$20,000 criteria, the barrier has been determined to be warranted due to the church’s value to the surrounding communities, its sensitivity to noise, and the high noise levels which would occur without a barrier.

“**FHWA**” means Federal Highway Administration.

“**Noise Abatement**” means any measure taken to reduce highway traffic noise levels.

“**Noise Abatement Criteria**” (NAC) means numerical noise standards promulgated by the Federal Highway Administration and published in Volume 7, Chapter 7, Section 3 of the Federal Aid Highway Manual.

“**Noise Barrier**” means a solid structure erected between the highway and the protected property which is designed to reduce traffic noise levels at the protected property by blocking the sound waves on their path from the highway to the protected property.

“**Receptor**” means any property containing noise sensitive activity. Table 1 in Volume 7, Chapter 7, Section 3 of the Federal Aid Highway Program Manual lists the land use categories which are considered to contain noise sensitive activities to which the Noise Abatement Criteria apply. The list includes residential properties, both single family and multi-family, churches, schools, playgrounds, recreational areas, parks, libraries, and hospitals. Each residential unit is counted as a single receptor in the determination of cost effectiveness of noise abatement. The weight given to other

activity areas, such as schools, churches, parks, etc., during the abatement evaluation is based on several factors and is determined on an individual basis. The term noise sensitive applies only to human activity. A receptor can be developed land or undeveloped land for which a development plan, design and program must have been approved by the local jurisdiction prior to the adoption by the Commonwealth Transportation Board of the highway alignment.

“VDOT” means Virginia Department of Transportation.

Moved By: Mr. Humphreys  
Seconded By: Mr. Musselwhite

**WHEREAS**, in order to provide a noise abatement policy covering federal aid and non-federal aid highway projects, and

**WHEREAS**, the need for a single policy has been established and

**WHEREAS**, careful consideration has been given to the development of a policy.

**NOW, THEREFORE, BE IT RESOLVED**, that the State Noise Abatement Policy can be approved by the Board, and that such policy be effective on January 1, 1989.

Motion: carried

August 18, 1988

## State Noise Abatement Policy

It is the policy of the Virginia Department of Transportation (VDOT) to employ the following criteria and procedures in determining the need and feasibility of noise abatement measures on all highway projects in the Commonwealth. In as much as VDOT does not have a retrofit noise abatement program for existing highways, this policy applies to proposed highway construction and improvement projects.

- a. Volume 7, Chapter 7, Section 3 of the Federal Aid Highway Program Manual (FHPM 7-7-3) will be the guiding document for the analysis and abatement of highway traffic noise on all proposed highway projects.
- b. In assessing traffic noise levels from a proposed project or determining the dimensions of a noise barrier, a source height of 8 feet for tractor trailers, 2.3 feet for medium trucks and 0 feet for automobiles will be used.
- c. Highway noise impacts beyond 1,000 feet from the roadway will not be considered in determining the need for the dimensions and cost of a noise barrier.
- d. A noise abatement measure will be considered if,
  1. It provides a minimum of 5 dB(A) attenuation (positive noise benefit), and
  2. The design year noise levels emanating from the project equal or exceed the FHWA Noise Abatement Criteria (NAC) given in FHPM 7-7-3 for various land use categories, or
  3. The design year noise levels emanating from the project exceed existing noise levels by 10 dB(A) or more.
- e. A noise abatement measure will be considered not cost effective if the cost of the measure per receptor protected exceeds \$20,000.00. For the purpose of this provision, the term “receptor” refers to any land use category listed in Table I of FHPM 7-7-3. (For example, a residential receptor would include single and multi-family dwellings).
- f. Extenuating circumstances will be considered on an individual project basis.
- g. For federal aid projects, the responsibility for assembling all relevant information and developing noise abatement related recommendations will rest with the joint FHWA-VDOT standing Noise Abatement Committee. On non-federal aid projects, the committee’s function will be carried by its VDOT members.

- h. The Chief Engineer, on behalf of the Commonwealth Transportation Board, will make the final determination on all noise abatement related issues.
- i. For non-federal aid projects, VDOT will consider and, if feasible, construct and maintain noise abatement measures, provided
  - 1. The local jurisdiction through which the project traverses agrees to assume 50 percent of the cost of the abatement measure, and
  - 2. The local jurisdiction has an ordinance requiring developers to include noise abatement in their plans for residential and other noise sensitive developments adjacent to existing highways and future highway alignments previously adopted by the Commonwealth Transportation Board. VDOT staff will provide limited assistance to local jurisdictions in the preparation of the noise ordinances. The abatement measures constructed by developers will ensure compliance with the FHWA Noise Abatement Criteria, where these criteria can be reasonably achieved, but will at the minimum, provide 5 dBA noise attenuation for each structure or activity which the abatement measure is located on the highway right of way, the developer will comply with VDOT's design, construction and materials specifications. The local jurisdiction will be responsible for maintaining the noise abatement measures constructed by the developer.
- j. If a local jurisdiction insists on the provision of noise abatement measure deemed unnecessary by VDOT, arrangements may be made for the use of VDOT right of way, provided:
  - 1. The locality is willing to assume 100 percent of the cost of the abatement measure including but not limited to preliminary engineering, construction and maintenance and,
  - 2. VDOT's material, design and construction specifications are met.
- k. In assessing the noise impacts associated with a highway project, undeveloped lands will be treated as developed lands, if and only if a proposed land use development plan and a schedule of development have been filed with and approved by the local jurisdiction prior to the date the Commonwealth Transportation board selects the final corridor alignment. The final decision concerning noise

abatement for a proposed development will be conditioned on two points.

- 1. The noise barrier will not be constructed until the portion of the development to be protected by the abatement measure is completed to the satisfaction of VDOT, and
- 2. When there is a substantial time lapse between the final decision and the date the development is completed, the noise abatement analysis will be updated and the decision will be reconsidered.

